

Amendments To The Specification:

Please replace the Description of the Drawing section with the section provided below:

DESCRIPTION OF DRAWINGS

Other features and advantages of the invention will be apparent from the following description, taken together with the drawings, in which:

Figure 1 shows a typical system in which the invention is useful;

Figure 2 shows, in more detail, a particular controller system in which the invention finds particular use;

Figure 3 is a flow chart showing overall operation of the setup/analysis portion of the 30 system;

Figure 4 is a map to the table represented by Figure 4A and Figure 4B.

Figure 4A is the first part of a table used to show the arguments used in the testing.

Figure 4B is the second part of a table used to show the arguments used in the testing.

Figure 5 shows a more detailed flow chart in accordance with the operation of the system;

Figure 6 shows the operational subsystems of the system;

Figure 7 shows data reduction sequential flow;

Figures 8A1-8A4, 8B1-8B4, 8C1-8C4, 8D1-8D4 show examples of trends data presentation;

Figures 9 shows screen shots of the graphical user interface of the system for post test data processing;

Figures 9A-9O show screen shots of the graphical user interface system;

Figure 10 shows a flow chart illustrating post processing;

Figures 10A-10B show screen shots of the post processing presentation;

Figure 11 is a map to the table represented by Figure 11A and Figure 11B.

Figures 11A and 11B are two parts of a single table that illustrate various system database files; and

Figure 12 shows a screen shot of the trends analysis presentation.

Please update the paragraph starting on line 14 page 7 with the following changes:

Referring now to the operation of the computer system in more detail, and referring to Figures 4A and 4B, at the main program level, in the master host computer, a number of parameters or arguments are entered and recorded using a graphic user interface. These are illustrated in the table of Figures 4A and 4B. Turning to the table, the initial parameters include the number of logical disks to be tested, the number of "child" processes to start (as that term is used in the Unix operating system), the number of processes that capture response times, the number of response times to collect, the buffer size requested, and the offset size, in bytes, rounded down from a randomly generated number (this supports seeks on random reads and writes to even boundaries of stripes). Other required arguments include the maximum range in megabytes to span the device, the time in seconds to effect read or write operations or the amount of data in actual bytes to read and write, and the percent of operations which will be read operations (with the remainder being write operations). Other optional arguments, in the illustrated embodiment, include identification of the devices to test, identification of which host will be the master host computer and whether the I/O operations will be sequential or random.

Other optional arguments include the number of sequential I/O operations to perform, once the system has “seeked” to the correct offset for a random operation, and the displacement in bytes back from that particular offset. In this particular embodiment of the invention, there are the yet further optional arguments which include the amount of time to delay between I/O commands, the initial byte offset to start sequential read or write commands, the method in which response start times will be collected (for example the use of buckets), a parameter identifying a percent hit rate to be implemented in connection with Integrated Cache Disk Arrays (ICDA’s), including Intelligent Storage. Systems, with controller cache to read or write a specific number of megabytes of data, and a random range multiplier (for devices larger than the scope of the random number generator).

Please change the Paragraph starting on Line 7 Page 8 as marked below:

Referring now to Figure 5, the operation of the system, in accordance with the invention, can be viewed as a series of nested loops, the outer most loop being the main program, the next loop being the driver program, and the inner loop being the scripting 10 program. In the outer loop, the system receives the arguments or parameters which control or set up the operation of the test program. Those parameters or arguments have been described above in connection with the table of Figures 4A and 4B. Referring to Figure 5, the main program receives (at step 100) and enters (at step 102) the various arguments in its data files. In a preferred embodiment of the invention, each test is performed typically three times (tested at step 104) to ensure a statistical averaging which creates both confidence and accuracy, thereby avoiding variability and statistical anomalies. A test may also be performed once for verification purposes (and with less data).

Please change the Paragraph beginning at Line 13 Page 12 as marked below:

Referring to Figure 9, a post processing "tab" enables the user to first start a statistical analysis program by clicking on button 900. The user can then bring up the statistical analysis program window to watch, on screen, for errors and to use it during any update-objects-routine which may follow. The user then selects the number of graphs per page as indicated at 902 (in Figures ~~8A, 8B~~ 8A1-8A4, 8B1-8B4,... ~~four graphs~~ one graph per page has ~~have~~ been selected) and thereafter can select processing of the data as described above.

Please change the Paragraph beginning at Line 27 page 12 as marked below:

During the input process, the user selects, using the graphical user interface, the parameters which enable the graphs of Figures 8A1-8A4, 8B1-8B4, 8C1-8C4, 8D1-8D4 ~~[[8]]~~ to be generated. The data corresponding to the graphs have been previously created in the database of the system. When the graphs are presented, as illustrated in Figures ~~8A, 8B~~ 8A1-8A4, 8B1-8B4,..., the presentation identifies the parameters relating to the graph including the ports of the controller which have been used, the nature of the tests, such as a random delayed fast write, the size of the blocks which have been used, and other test parameters as indicated in the Figures 8A1-8A4, 8B-1-8B4, 8C1-8C4, 8D1-8D4 ~~8A, 8B~~. By plotting this information in a graphical format, the user is enabled to spot trends in the data as a result of changes over time, or other parameters. This data is also available for viewing on screen.

Please change the Paragraph beginning at Line 1 Page 13 as marked below:

Trends Analysis

The trend analysis referred to above, taking place as indicated at 350, provides a series of graphs, such as those illustrated in Figures 8A1-8A4, 8B1-8B4, 8C1-8C4, 8D1-8D4 . ~~8A, 8B~~

These graphs provide a display of the collected data in a format easily viewable by the user so as to enable the user to understand and recognize trends in the data as a function of changes in one or more parameters. Thus, changes which result over time can be plotted to clearly enable the user to see and analyze, for example, the number of I/O's per second as a result of changes in the parameter, or the number of megabits per second throughput by the controller. The illustrative presentations of Figures ~~8A, 8B~~8A1-8A4, 8B1-8B4,... enable such presentations to be made effectively, and preferably in color.

Please change the Paragraph starting on page 14 as marked below:

During the input process, the user selects, using the graphical user interface, the parameters which enable the graphs of Figures 8A1-8A4, 8B1-8B4,...~~[[8]]~~ to be generated. The data corresponding to the graphs have been previously created in the database of the system. When the graphs are presented, as illustrated in Figures ~~8A, 8B~~8A1-8A4, 8B1-8B4,..., the presentation identifies the parameters relating to the graph including the ports of the controller which have been used, the nature of the tests, such as a random delayed fast write, the size of the blocks which have been used, and other test parameters as indicated in the Figures 8A1-8A4, 8B1-8B4, 8C1-8C4, 8D1-8D4 ~~8A, 8B~~. By plotting this information in a graphical format, the user is enabled to spot trends in the data as a result of changes over time, or other parameters. This data is also available for viewing on screen.